

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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JC10 Rec'd PCT/PTO 19 MAR 2002

In re application of: Shizuo AKIRA et al.

Appl. No. Unassigned

Confirmation No.

Filed: March 19, 2002

For: RECEPTOR PROTEINS  
SPECIFICALLY RECOGNIZING  
BACTERIAL DNA

Art Unit: Unassigned

Examiner: Unassigned

Atty. Docket No. 31671-178057

Customer No.



26694

PATENT TRADEMARK OFFICE

**Preliminary Amendment**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to calculation of the fees, please amend the claims attached to the specification as follows:

A<sup>1</sup>  
4. (amended) A DNA encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which hybridizes with the DNA of claim 3 under stringent conditions.

A<sup>2</sup>  
7. (amended) A DNA encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which hybridizes with the DNA of claim 6 under stringent conditions.

A<sup>3</sup>  
13. (amended) A fusion protein comprising the protein according to claim 8 fused with a marker protein and/or a peptide tag.

14. (amended) An antibody specifically bound to the protein according to claim 8.

A<sup>4</sup> 16. (amended) A host cell comprising an expression system expressing the protein according to claim 8.

20. (amended) The non-human animal according to claim 17 characterized in that a rodent animal is a mouse.

A<sup>5</sup> 21. (amended) A method of preparing a cell expressing a protein having reactivity against bacterial DNA having an unmethylated CpG sequence characterized in that the DNA according to claim 1 is introduced into a cell wherein a gene function encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence is destroyed on a chromosome.

A<sup>6</sup> 26. (amended) A screening method for an agonist or an antagonist of a protein having reactivity against bacterial DNA having the unmethylated CpG sequence according to claim 24 using a mouse as a non-human animal.

27. (amended) An agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence obtained by the screening method for an agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having the unmethylated CpG sequence according to claim 23.

A<sup>7</sup> 30. (amended) A kit used to diagnose a disease in a test DNA sample, which disease is related to the deletion, substitution and/or addition in a sequence of DNA encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which kit comprises the DNA according to claim 3.

Please add the following claims

A<sup>8</sup> Claim 31 (new) The non-human animal according to claim 18 characterized in that a rodent animal is a mouse.

Claim 32 (new) A screening method for an agonist or an antagonist of a protein having reactivity against bacterial DNA having the unmethylated CpG sequence according to claim 25 using a mouse as a non-human animal.

A<sup>8</sup>  
Claim 33 (new) An agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence obtained by the screening method for an agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having the unmethylated CpG sequence according to claim 24.

Claim 34 (new) An agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence obtained by the screening method for an agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having the unmethylated CpG sequence according to claim 25.

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**REMARKS**

This Preliminary Amendment is made to eliminate multiple claim dependency.  
Examination on the merits of the application is requested. A marked up version showing the changes made to the claims is attached.

Date:

3/19/02

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

4. (amended) [The] A DNA [according to claim 1] encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which hybridizes with the DNA [comprising a gene according to] of claim 3 under [a] stringent conditions.
7. (amended) [The] A DNA [according to claim 1] encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which hybridizes with the DNA [comprising the gene according to] of claim 6 under [a] stringent conditions.
13. (amended) A fusion protein comprising the protein according to [any one of] claim[s] 8[to 12] fused with a marker protein and/or a peptide tag.
14. (amended) An antibody specifically bound to the protein according to [any one of] claim[s] 8 [to 12].
16. (amended) A host cell comprising an expression system expressing the protein according to [any one of] claim[s] 8 [to 12].
20. (amended) The non-human animal according to [any one of ] claim[s] 17 [to 19] characterized in that a rodent animal is a mouse.
21. (amended) A method of preparing a cell expressing a protein having reactivity against bacterial DNA having an unmethylated CpG sequence characterized in that the DNA according to [any one of ] claim[s] 1[to 7] is introduced into a cell wherein a gene function encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence is destroyed on a chromosome.

26. (amended) A screening method for an agonist or an antagonist of a protein having reactivity against bacterial DNA having the unmethylated CpG sequence according to [either of ] claim[s] 24 [or 25] using a mouse as a non-human animal.
27. (amended) An agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence obtained by the screening method for an agonist or an antagonist of a receptor protein specifically recognizing bacterial DNA having the unmethylated CpG sequence according to [any of ] claim[s] 23 [to 26].
30. (amended) A kit used to diagnose a disease[s] in a test DNA sample, which disease is related to the deletion, substitution and/or addition in a sequence of DNA encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence, which kit comprises the DNA according to claim 3. [which can compare a sequence of DNA encoding a receptor protein specifically recognizing bacterial DNA having an unmethylated CpG sequence in a test body with a sequence of bases in the DNA according to claim 3.]